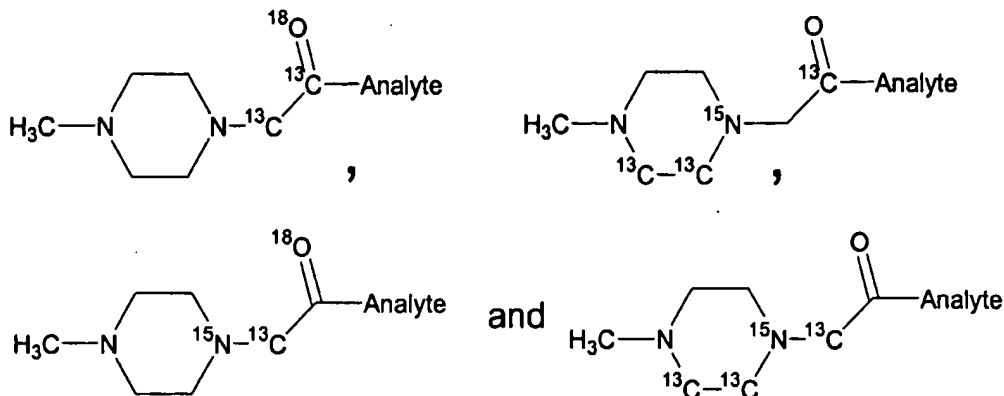


Claims:

I (We) claim:

- 5 1 A mixture comprising the same analyte labeled with two or more different isobaric labels, wherein at least two of the labeled analytes are compounds of the formula selected from the group consisting of:



or a salt thereof.

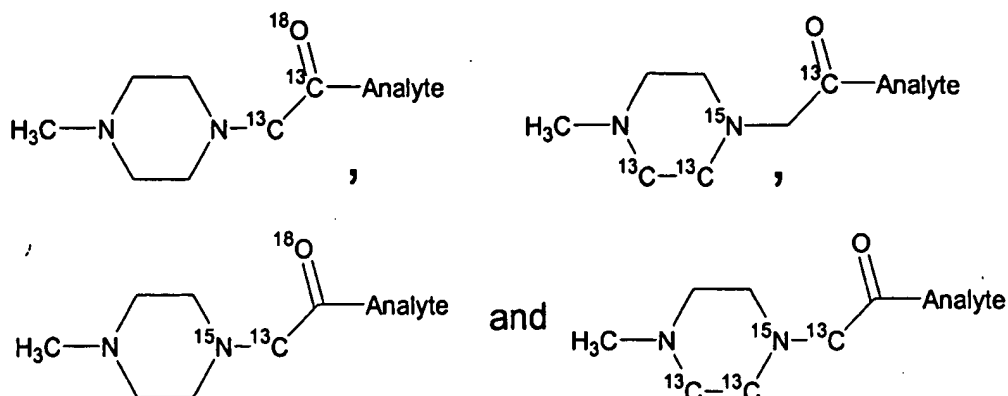
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2. The mixture of claim 1, wherein the analyte is a peptide.
3. The mixture of claim 1, wherein the analyte is a protein.
- 15 4. The mixture of claim 1, wherein the analyte is a nucleic acid.
5. The mixture of claim 1, wherein the analyte is a carbohydrate, lipid or steroid.
6. The mixture of claim 1, wherein the analyte is a small molecule with a molecular weight of less than 1500 daltons.

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- 7 A mixture of fragment ions of the same analyte labeled with two or more different isobaric labels selected for fragmentation and further analysis in a tandem mass spectrometer, wherein at least two of the labeled analytes are compounds of a formula selected from the group consisting of:



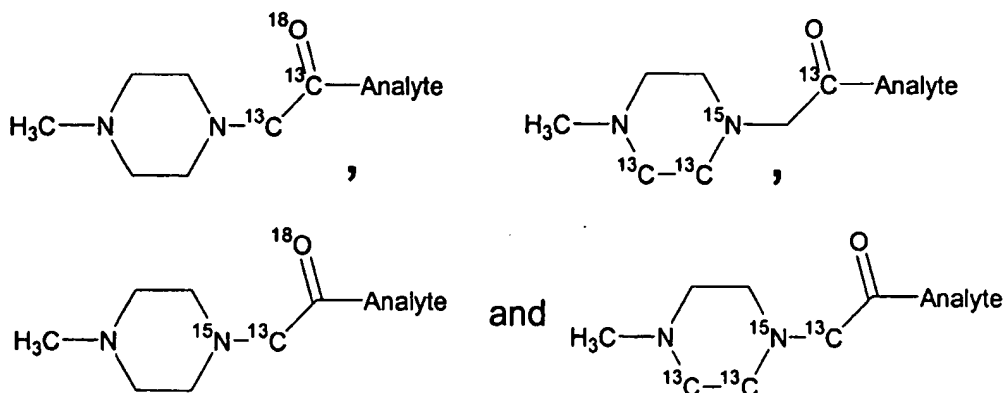
wherein all ion fragments are either positively or negatively charged.

8. The mixture of claim 7, wherein the analyte is a peptide.
- 5
9. The mixture of claim 7, wherein the analyte is a protein.
10. The mixture of claim 7, wherein the analyte is a nucleic acid.
- 10 11. The mixture of claim 7, wherein the analyte is a carbohydrate, lipid or steroid.
12. The mixture of claim 7, wherein the analyte is a small molecule with a molecular weight of less than 1500 daltons.
- 15 13. The mixture of claim 7, wherein the fragmentation and further analysis produces at least two signature ions of the molecular formula selected from the group consisting of:
¹³CC₅H₁₃N₂⁺, ¹³CC₅H₁₃¹⁵NN⁺, ¹³C₂C₄H₁₃¹⁵NN⁺ and ¹³C₃C₃H₁₃¹⁵NN⁺.

Claims:

I (We) claim:

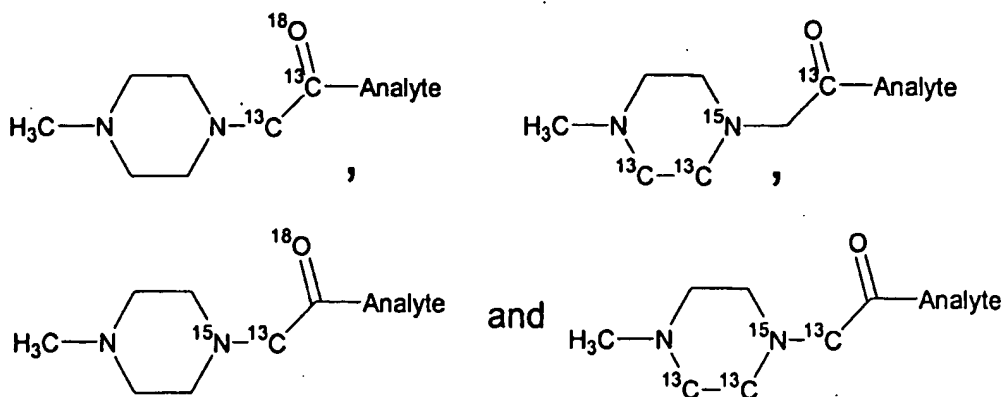
- 5 1. A mixture comprising the same analyte labeled with two or more different isobaric labels, wherein at least two of the labeled analytes are compounds of the formula selected from the group consisting of:



or a salt thereof.

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2. The mixture of claim 1, wherein the analyte is a peptide.
3. The mixture of claim 1, wherein the analyte is a protein.
- 15 4. The mixture of claim 1, wherein the analyte is a nucleic acid.
5. The mixture of claim 1, wherein the analyte is a carbohydrate, lipid or steroid.
6. The mixture of claim 1, wherein the analyte is a small molecule with a molecular weight of less than 1500 daltons.
- 20 7. A mixture of fragment ions of the same analyte labeled with two or more different isobaric labels selected for fragmentation and further analysis in a tandem mass spectrometer, wherein at least two of the labeled analytes are compounds of a formula selected from the group consisting of:
- 25



wherein all ion fragments are either positively or negatively charged.

8. The mixture of claim 7, wherein the analyte is a peptide.
9. The mixture of claim 7, wherein the analyte is a protein.
10. The mixture of claim 7, wherein the analyte is a nucleic acid.
- 10 11. The mixture of claim 7, wherein the analyte is a carbohydrate, lipid or steroid.
12. The mixture of claim 7, wherein the analyte is a small molecule with a molecular weight of less than 1500 daltons.
- 15 13. The mixture of claim 7, wherein the fragmentation and further analysis produces at least two signature ions of a formula selected from the group consisting of:

